21700 Cylindrical Battery Cases Stainless Steel Casing Sets With Sealing Gaskets And Caps

Item Number: FZ12

Introduction

Engineered for precision battery R&D, this 21700 cylindrical battery case features durable 304 stainless steel construction, nickel-plated top cap, nylon O-ring, and PP insulating spacer to deliver airtight sealing and superior chemical resistance across cell assembly prototyping workflows.

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Application	Description	Key Benefit
Lithium-Ion Cathode & Anode Material R&D	Assembly and evaluation of novel high-nickel NMC, NCA, LFP, and silicon-graphite composite formulations under standard 21700 cell operating constraints.	Delivers consistent volume and internal compression, ensuring that electrochemical performance data reflects intrinsic material properties rather than hardware variations.
Next-Gen Electrolyte Formulation Testing	Testing advanced high-voltage liquid electrolytes, flame-retardant additives, and ionic liquid formulations for leakage and corrosion resistance.	304 stainless steel construction resists aggressive chemical attack, preserving electrolyte purity over extended aging tests.
Solid-State & Hybrid Battery Prototyping	Packaging dry-electrode and semi-solid pouch-to-cylinder transitions requiring robust radial containment and uniform stack pressure.	Rigid steel housing provides high hoop strength to maintain uniform mechanical stack contact without radial bulging.
High-Rate Discharge Characterization	Prototyping power cells for power tools and electric mobility requiring rapid continuous current discharge (e.g., 3C–10C rates).	Low-resistance nickel-plated cap ensures minimal Joule heating and optimal current collection at terminal contacts.
Pilot Production Line Validation	Establishing crimping parameter matrices, sealant compression ratios, and electrolyte filling volumes before full-scale manufacturing rollouts.	Dimensional repeatability allows rapid calibration of automated laboratory crimping machinery and optical inspection systems.
Academic & Institutional Energy Research	Providing universities and research centers with standardized, commercial-grade hardware for benchmark battery research and student training.	High structural consistency ensures repeatable, peer-reviewable electrochemical cycling data across extensive sample batches.

Specification Parameter	Dimensional & Material Metric
Product Item Number	FZ12
Can Outer Diameter (OD)	21.13 mm
Can Inner Diameter (ID)	21.06 mm
Can Height (H)	73.65 mm
Top Cap Diameter (D)	20.95 mm
Top Cap Height (H)	4.3 mm (including O-ring assembly)
Can Body Material	304 Stainless Steel
Cap Material	Nickel-Plated Stainless Steel
O-Ring Seal Material	Nylon
Insulating Spacer Material	Polypropylene (PP)

Specification Parameter	Dimensional & Material Metric
Standard Form Factor	21700 Cylindrical Cell Enclosure
Assembly Compatibility	Compatible with standard 21700 manual, pneumatic, and electric hydraulic cell crimping dies